



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/582,060

06/08/2006

Imants Deme

TS9512 US

1596

23632 7590 10/15/2008
SHELL OIL COMPANY
P O BOX 2463
HOUSTON, TX 772522463

EXAMINER

PARVINI, PEGAH

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

10/15/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/582,060	Applicant(s) DEME, IMANTS	
	Examiner PEGAH PARVINI	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Specification

The objection made to **claim 31** under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only is proper and stands. See MPEP § 608.01(n).

It is to be noted that based on the claim language, claim 31 is still in an improper form since the claim requires the limitation of claim 30 and one of claims 1-5 or 20-29.

Accordingly, the claim 31 and claims 32-34 which are directly or indirectly dependent upon it have not been further treated on the merits.

The objection made to the **specification** as failing to provide proper antecedent basis for the claimed subject matter is proper and stands. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: There is no antecedent basis for the limitation of “a substantial absence of bitumen or aggregate or both” which has been recited in claims 25 and 37 in the specification.

Claim Rejections - 35 USC § 112

The rejection of **claims 1-5 and 36** under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention is proper and stands.

The content of elemental sulfur is claimed in the range of from 75 to 100 wt% and the content of H₂S-suppressant in the pellet is claimed in the range of 0.02% to 10% (w/w). As it was noted down previously, if, for example, an amount of 100wt% of sulfur will be taken, then no more space is left for any amount of H₂S-suppressant. Thus, it would be indefinite to have 100wt% of sulfur while the amount of suppressant can not be zero.

While the example of 100wt% has been argued, the burden is on the Applicant to verify whether any amount of sulfur less than 100 wt% is acceptable or not based on the recitation of instant claims.

Claim Rejections - 35 USC § 103

The rejection of **claims 1, 3-5, 7-9 and 36** under Title 35 U.S.C. 103(a) as being unpatentable over Etnyre in view of Gaw as detailed out in the previous Office Action is proper and stands.

The rejection of **claim 2** under Title 35 U.S.C. 103(a) as being unpatentable over Etnyre in view of Gaw and in further view of Kopvillem et al. as detailed out in the previous Office Action is proper and stands.

The rejection of **claims 10-19, 30 and 35** under Title 35 U.S.C. 103(a) as being unpatentable over AU 9715194 in view of Etnyre and in further view of Gaw as detailed out in the previous Office Action is proper and stands.

The rejection of **claims 20-24** under Title 35 U.S.C. 103(a) as being unpatentable over Gaw in view of Etnyre as detailed out in the previous Office Action is proper and stands.

The rejection of **claims 25-29 and 37** under Title 35 U.S.C. 103(a) as being unpatentable over Etnyre in view of Gaw as detailed out in the previous Office Action is proper and stands.

Claims 38-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Etnyre in view of Gaw as evidenced by Kopvillem et al.

Regarding claims 38 to 42, Etnyre teaches a composition of sulfur and asphalt which is formed into pellets to easily handle them (column 2, lines 6-26). Certain other components may be added to this mixture. Etnyre, further, discloses that the ratio of sulfur to asphalt may be 4:1 (column 4, lines 1-6). Considering the fact that the references discloses that fillers may be added to the mixture and even if added, their

Art Unit: 1793

amounts may be varied, taking an amount of, for example, 3wt% of filler, and a ratio of 4:1, an amount of 77.6wt% of sulfur is achieved.

It is to be noted that the disclosure of Etnyre in column 4, lines 5-6 is interpreted as a preferred ratio of sulfur to asphalt; in other words, it does not teach away from the invention. Specially, it is noted that as disclosed by Etnyre, the addition of sulfur to bituminous concrete produces certain advantages such as substantial strength improvements as that shown by Kopvillem et al. In other words, Kopvillem et al. teach that high concentration of sulfur-asphalt ratio substantially improves the strength (Kopvillem et al., column 1, lines 32-36 and 55-60). Therefore, it would have been obvious to utilize a higher ratio of sulfur to asphalt compared to the 4:1 ratio motivated by the fact that higher amounts of sulfur improves the strength. It is to be noted that although the references, alone, do not disclose a pellet comprising of H₂S-suppressant and sulfur, (1) instant claim 38 recites the limitation of "comprising", (2) the rejection of instant claims and the dependent ones are not based on anticipatory rejection or 102, (3) the claimed pellets are used in the field of art which is covered by the prior art of record; thus, the teaching of the prior art on using higher amount of sulfur is taken to make the combination of references to obtain higher amount of sulfur in the pellets of Etnyre obvious. Thus, based on the above, if, for example, a ratio of 13:1 of sulfur to asphalt with the optional 3wt% of filler is taken, this would result in an amount of 90wt% of sulfur. The reference does not, expressly, disclose the use of H₂S-suppressant with this mixing composition.

Art Unit: 1793

Gaw, drawn to the same field of art, discloses the use of hydrogen sulfide suppressant to reduce the evolution of hydrogen sulfide which is toxic (column 1, lines 40-50). Gaw expressly teaches that the amount of the suppressant does not exceed 0.5% by weight of the total composition (column 2, lines 44-48). As disclosed by Gaw, a hydrogen sulfide suppressant is selected from the class consisting of free radical inhibitors, redox catalysts and mixture thereof wherein attention is drawn to tetra-alkylthiuram disulfide, zinc dialkyl dithiocarbamates and diphenyl guanidine as some free radical inhibitors and iodine, copper salts and copper oxides, iron salts (such as iron chlorides, i.e. ferric chloride and ferrous chloride as being most effective and practical) and iron oxides, cobalt salts and cobalt oxides as some conventional redox reagents (column 1, lines 55-57; column 2, lines 6-10 and 14-30).

Therefore, it would have been obvious to one of ordinary skill in the art to modify Etnyre in order to include the use of a hydrogen sulfide suppressant as that taught by Gaw motivated by the fact that Gaw expressly discloses that H₂S-suppressants reduce the evolution of hydrogen sulfide gas. Moreover, this combination is motivated by the fact that Etnyre discloses that the composition is formed into pellets to easily handle the composition (column 2, lines 10-12).

Response to Amendment

Applicant's amendments to claim 15, filed July 11, 2008 is acknowledged. Therefore, the objection made to claim 16, as presented in the previous Office Action, for failing to further limit the scope of said claim (claim 16) has been hereby withdrawn.

However, said amendment does not place instant claim 15 in condition for allowance.

Applicant's amendment to claim 25, filed July 11, 2008, is acknowledged. However, said amendment does not place claim 25 in condition for allowance.

Applicant's amendment to claim 31, filed July 11, 2008, is acknowledged. However, said amendment does not place claim 25 in condition for allowance.

Applicant's amendment to claim 37, filed July 11, 2008, is acknowledged. However, said amendment does not place the claim in condition for allowance.

Response to Arguments

The declaration under 37 CFR 1.132 filed July 11, 2008 is insufficient to overcome the rejection of claims 1-5 and 7-37 and the newly submitted claims 38-42 based upon the 103 rejections as set forth in the last Office action and above because: said declaration is not commensurate with the scope of the claims. No data was presented in, for example, presenting unexpected results for addition of pellets comprising an H₂S suppressant and sulfur as recited in instant claims, specially, claim 1.

In view of the foregoing, when all of the evidence is considered, the totality of the rebuttal evidence of nonobviousness fails to outweigh the evidence of obviousness.

Applicant's arguments filed July 11, 2008 have been fully considered but they are not persuasive.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

The Examiner, respectfully, submits that Gaw was used for his teaching on using H₂S-suppressant and why doing so. Furthermore, Gaw has been used in 103(a) rejection in combination with AU 9715194 and/or with Etnyre. Also, the disclosure of Etnyre on teaching a ratio of 4:1 of sulfur to asphalt is taken to be a preferred ratio as it is obvious in the art that higher amount of sulfur imparts certain advantages to the mixture of sulfur, asphalt and more such as improving the strength as that taught by Kopvillem et al. incorporated into Etnyre (column 1).

With reference to Applicant's disclosure that Ernyre does not teach a composition that is "predominantly or close to entirely all sulfur", it is noted that the recitation of instant claim 1 includes 100wt% of sulfur which, as pointed in the previous Office action and detailed above, makes the interpretation of said claim indefinite.

Art Unit: 1793

It should be noted that 100wt% means entirely and not “predominantly or close to entirely”.

Additionally, said rejections are based on a 103 obviousness and not on a 102 anticipation.

With reference to the addition of fillers, it is noted that this addition is optional as Etnyre discloses that mineral filler may be added (column 5, lines 39-41).

With reference to Applicant's that Gaw does not teach the direct addition of a hydrogen sulfide suppressant to sulfur only, it is to be noted that instant claims recite "comprising"; thus, no need is seen for Gaw to teach the addition of suppressant to sulfur only.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 1793

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PEGAH PARVINI whose telephone number is (571)272-2639. The examiner can normally be reached on Monday to Friday 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. P./
Examiner, Art Unit 1793

/Jerry A Lorengo/
Supervisory Patent Examiner, Art
Unit 1793